# ABSTRACT

Transmitter and receiver units for use in an OFDM communications system and configurable to support multiple types of services. The transmitter unit includes one or more encoders, a symbol mapping element, and a modulator. Each encoder receives and codes a respective channel data stream to generate a corresponding coded data stream. The symbol mapping element receives and maps data from the coded data streams to generate modulation symbol vectors, with each modulation symbol vector including a set of data values used to modulate a set of tones to generate an OFDM symbol. The modulator modulates the modulation symbol vectors to provide a modulated signal suitable for transmission. The data from each coded data stream is mapped to a respective set of one or more "circuits". Each circuit can be defined to include a number of tones from a number of OFDM symbols, a number of tones from a single OFDM symbol, all tones from one or more OFDM symbols, or some other combination of tones. The circuits can have equal size or different sizes. Different circuits can be used for full rate data (e.g., active speech) and low rate data (e.g., silence periods).